

IN THE CLAIMS

Claims 1 – 55 (cancel)

56. (currently amended): A toner for developing an electrostatic image comprising toner particles which include a binder resin, a wax and a colorant, wherein the wax has a melting point of between 50 and 150°C, and the wax exists in the toner particles in domains of 2 µm or less mean particle size and wherein

(a) the mean circularity of the toner particles as measured by a Flow Particle Image Analyser is at least 0.90; and

(b) the shape factor, SF1, of the toner particles is in the range from 130 to 150; and wherein the binder resin is prepared from at least one latex containing a resin having a monomodal molecular weight distribution and at least one latex containing a resin having a bimodal molecular weight distribution

~~(c) the ratio SF1/SF2 of the shape factor, SF1, to the shape factor, SF2, is from 1.07 to 1.13.~~

57. (previously presented): A toner according to Claim 56 wherein the mean circularity of the toner particles is in the range from 0.93 to 0.99.

58. (previously presented): A toner according to Claim 57 wherein the mean circularity of the toner particles is in the range from 0.94 to 0.96.

59. (previously presented): A toner according to Claim 56 wherein SF1 of the toner particles is at most 145.

60. (previously presented): A toner according to Claim 59 wherein SF1 of the toner particles is in the range from 135 to 145.

61. (previously presented): A toner for developing an electrostatic image comprising toner particles which include a binder resin, a wax and a colorant, wherein the wax has a melting point of between 50 and 150°C, and the wax exists in the toner particles in domains of 2µm or less mean particle size and wherein

(a) the mean circularity of the toner particles as measured by a Flow Particle Image Analyser is in the range from 0.94 to 0.96;

(b) the shape factor, SF1, of the toner particles is in the range from 135 to 145;
and

(c) $SF1 > SF2$.

62. (previously presented): A toner according to claim 56 wherein SF2 of the toner particles is in the range from 120 to 140.

63. (previously presented): A toner according to Claim 57 wherein SF2 of the toner particles is in the range from 125 to 135.

64. (previously presented): A toner according to Claim 56 wherein the BET surface area of the particles is 0.7-1.1 m²/g.

65. (previously presented): A toner according to Claim 56 wherein the wax exists in the toner in domains of mean diameter 1.5µm or less.

66. (previously presented): A toner for developing an electrostatic image comprising toner particles which include a binder resin, a wax and a colorant, wherein the wax has a melting point of between 50 and 150°C, and the wax exists in the toner particles in domains of 2 µm or less mean particle size and wherein

(a) the mean circularity of the toner particles as measured by a Flow Particle Image Analyser is at least 0.90;

(b) the shape factor, SF1, of the toner particles is in the range from 130 to 150;
and

(c) the ratio SF1/SF2 of the shape factor, SF1, to the shape factor, SF2, is from 1.07 to 1.13;

wherein the binder resin is prepared from at least one latex containing a resin having a monomodal molecular weight distribution and at least one latex containing a resin having a bimodal molecular weight distribution.

67. (previously presented): A toner according to Claim 66 wherein the monomodal molecular weight resin is a low molecular weight resin and has a number average molecular weight of from 3000 to 10000.

68. (previously presented): A toner according to Claim 66 wherein the bimodal resin has a weight average molecular weight of from 100,000 to 500,000.

69. (previously presented): A toner according to Claim 56 wherein the resin comprises a copolymer of (i) a styrene or substituted styrene, (ii) at least one alkyl acrylate or methacrylate and (iii) an hydroxy-functional acrylate or methacrylate.

70. (previously presented): A toner according to Claim 56 wherein the amount of wax is from 3 to 20 wt%.

71. (previously presented): A toner according to Claim 56 which further comprises a charge control agent.

72. (previously presented): A process for forming an image, the process comprising developing an electrostatic image using a toner according to claim 56, wherein the haze at a print density of 1.0 mg/cm² is below 40, and the ratio of the values at fusion temperatures of 130 and 160°C is at most 1.5.

73. (previously presented): A process for the manufacture of a toner for developing an electrostatic image comprising toner particles which include a binder resin, a wax and a colorant, wherein the wax has a melting point of between 50 to 150°C; and the wax exists in the toner particles in domains of 2µm or less mean particle size and wherein

(a) the mean circularity of the toner particles as measured by a Flow Particle Image Analyser is at least 0.90; and

(b) the shape factor, SF1, of the toner particles is at most 165,
which process comprises the following steps:

- I. providing a latex dispersion which has at least one latex with a monomodal molecular weight distribution and has at least one latex with a bimodal molecular weight distribution;
- II. providing a wax dispersion;
- III. providing a colorant dispersion
- IV. mixing the latex dispersion, wax dispersion and colorant dispersion; and
- V. causing the mixture to flocculate to produce said toner.

74. (previously presented): A process according to Claim 73 wherein the monomodal molecular weight latex has a number average molecular weight of from 3000 to 10000.

75. (previously presented): A process according to Claim 74 wherein the monomodal molecular weight latex has a number average molecular weight of from 3000 to 6000.

76. (previously presented): A process according to Claim 73 wherein the bimodal latex has a weight average molecular weight of from 100,000 to 500,000.

77. (previously presented): A toner according to Claim 76 wherein the bimodal latex has a weight average molecular weight of from 200,000 to 400,000.

78. (previously presented): A process according to claim 73 further comprising heating the flocculated mixture obtained after step (v) to form loose aggregates of particle size from 3 to 20 μ m.

79. (previously presented): A process according to Claim 78 further comprising heating the aggregates to a temperature above the T_g of the latex to induce coalescence to form toner particles.

80. (previously presented): A process according to Claim 73 wherein the latex dispersion comprises an ionic surfactant.

81. (previously presented): A process according to claim 73 wherein the latex containing a resin having a bimodal molecular weight distribution is prepared by a process comprising the successive steps of forming a polymer of high molecular weight distribution followed by forming a polymer of low molecular weight distribution such that the resulting latex comprises composite particles comprising both said low molecular weight polymer and said high molecular weight polymer.

82. (previously presented): A process according to Claim 73 which, prior to step iv, further comprises the step of providing a charge control agent dispersion, which dispersion is then incorporated in step iv by mixing.

83. (previously presented): A process according to claim 82 wherein the charge control agent is milled with the colorant.

84. (previously presented): A process according to claim 73 wherein the preparation of the wax dispersion comprises the mixing together of the wax with an ionic surfactant.

85. (previously presented): A process according to claim 73 wherein the preparation of the colorant dispersion comprises the milling together of the colorant with an ionic surfactant.

86. (previously presented): A process according to claim 73 wherein the dispersions of latex, colorant, wax, and charge control agent where present, have the same sign charge on the surfactant.

87. (previously presented): A process according to claim 86 wherein the surfactant present in the dispersions contains a group which can be converted from an ionic to a non-ionic form and vice versa by adjustment of pH.

88. (previously presented): A toner for developing an electrostatic image which has been obtained by the process of claim 73.